

A impeller shaft assembly is disclosed for use in a refrigerant compressor, and more particularly in a commercial high-speed centrifugal impeller shaft configuration. The impeller shaft assembly includes a contoured spacer body. The contoured spacer body includes a front face, a rear face, a recessed spring bearing surface in its rear face, and a spring spacing abutment including a shoulder that is seated against a protective washer. The contoured spacer body functions to prevent the headed front end of a fastener from coming into direct contact with a spring assembly and protective washer. Consequently, the spring assembly and protective washer are not sized to correspond to the cross-section area of the headed front end as disclosed in the prior art. Instead, the protective washer and spring assembly are sized to fit the rear face of the contoured spacer body, which in turn is sized to fit the front face of a first stage impeller. The contoured spacer body ensures that the clamp load is dissipated across the front face of the first stage impeller. The contoured spacer body also provides greater protection to the first stage impeller during installation and maintenance. In another embodiment, the contoured spacer body and headed front head are combined to make a contoured front end.